

Life Cycle Analysis Updates

December 2, 2008



CA-GREET and Pathway Updates

- The latest release of CA-GREET v1.8b will be available mid December 2008
- Will include updated criteria pollutants results
- Will update current published pathways:
 - Corn ethanol
 - CaRFG and ULSD
 - CNG, H₂, and Electricity
 - Soybean Biodiesel and Land Fill Gas
 - Others

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CA-GREET and Pathway Updates (cont.)

- Additional pathways to be published
 - Brazilian sugarcane ethanol
 - Renewable diesel from soybeans
 - LNG (5 sub-pathways)
 - Palm Oil based biodiesel
 - Cellulosic ethanol from forest residue
 - Cellulosic ethanol from farmed trees
 - Renewable diesel from waste
 - GTL from natural gas

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Land Use Change: Ongoing Work

Presented preliminary land use change impact estimates for corn ethanol at October 16th workshop:

- Used GTAP to estimate total impact
- Annualized results over 30 years
- Preliminary estimate of 35g CO₂e/MJ

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Land Use Change for Other Biofuels

Land use change impact estimates in progress for:

- Biodiesel
- Sugarcane ethanol
- Cellulosic Ethanol

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Land Use Change: Ongoing Work

Refinements to the modeling in process:

- Inclusion of Conservation Reserve Program (CRP) and/or currently unmanaged lands
- Development of comprehensive uncertainty estimates
- Incorporation of Winrock emission factors
- Accounting for time in GHG emissions from land use change

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Land Use Change for Conventional and Unconventional Fossil Fuels

Preliminary estimates available but being reviewed

- Crude from California Oil Fields
- Crude from Canadian Oil Fields
- Oil Sands from Alberta, Canada

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Questions/Comments

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